HUNTINGTON SERVICE LANE RENOVATIONS

8101 CINDER BED ROAD
LORTON, VA 22079

MOUNT VERNON DISTRICT

CONTRACT NO. 12100501

FUND NO. 400-C40000

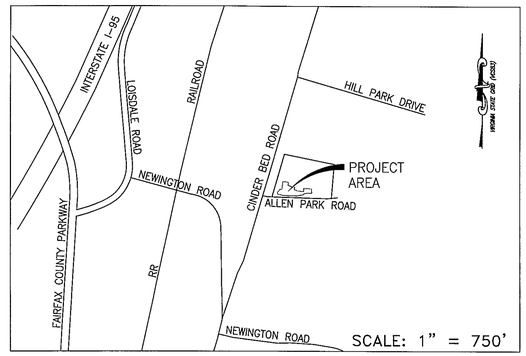
DEPARTMENT OF TRANSPORTATION

APPLICANT
FAIRFAX COUNTY DEPARTMENT OF TRANSPORTATION
4050 LEGATO ROAD
SUITE 400
FAIRFAX, VA 22033-2895

OWNER
FAIRFAX COUNTY BOARD OF SUPERVISORS
12000 GOVERNMENT CENTER PARKWAY
SUITE 553
FAIRFAX, VA 22035

SHEET INDEX

VICINITY MAP



OCTOBER 16, 2012

SPECIAL PERMIT PACKAGE

Application No. SP 2012-MV-083

John R. Kelsey III
Chairman, Board of Zoning Appeals

RECEIVED
Department of Planning & Zoning
OCT 16 2012
Zoning Evaluation Division

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S:
ROAD AND BRIDGE SPECIFICATIONS, DATED 2007
ROAD AND BRIDGE STANDARDS, DATED FEBRUARY 2008
WORK AREA PROTECTION MANUAL, DATED JANUARY 2011
AND AS AMENDED BY CONTRACT PROVISIONS AND THESE PLANS.

RKK
10306 EATON PLACE
WILLOW WOOD II, SUITE 240
FAIRFAX, VA 22030
(P) 703 246-0028
(F) 703 246-0123

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www.wendelcompanies.com
p:703.299.8718 f:703.299.8719
ARCHITECTURE • ENGINEERING • PLANNING
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DESIGNED: MBT
DRAWN BY: KAB
CHECKED: WSS
APPROVED: WSS

SEAL: COMMONWEALTH OF VIRGINIA — William S. Springer — WILLIAM S. SPRINGER — Lic. No. 024778 — 10/16/2012 — PROFESSIONAL ENGINEER

REVISION NO.	REVISION DATE	REVISION DESCRIPTION

FFX. LOGO

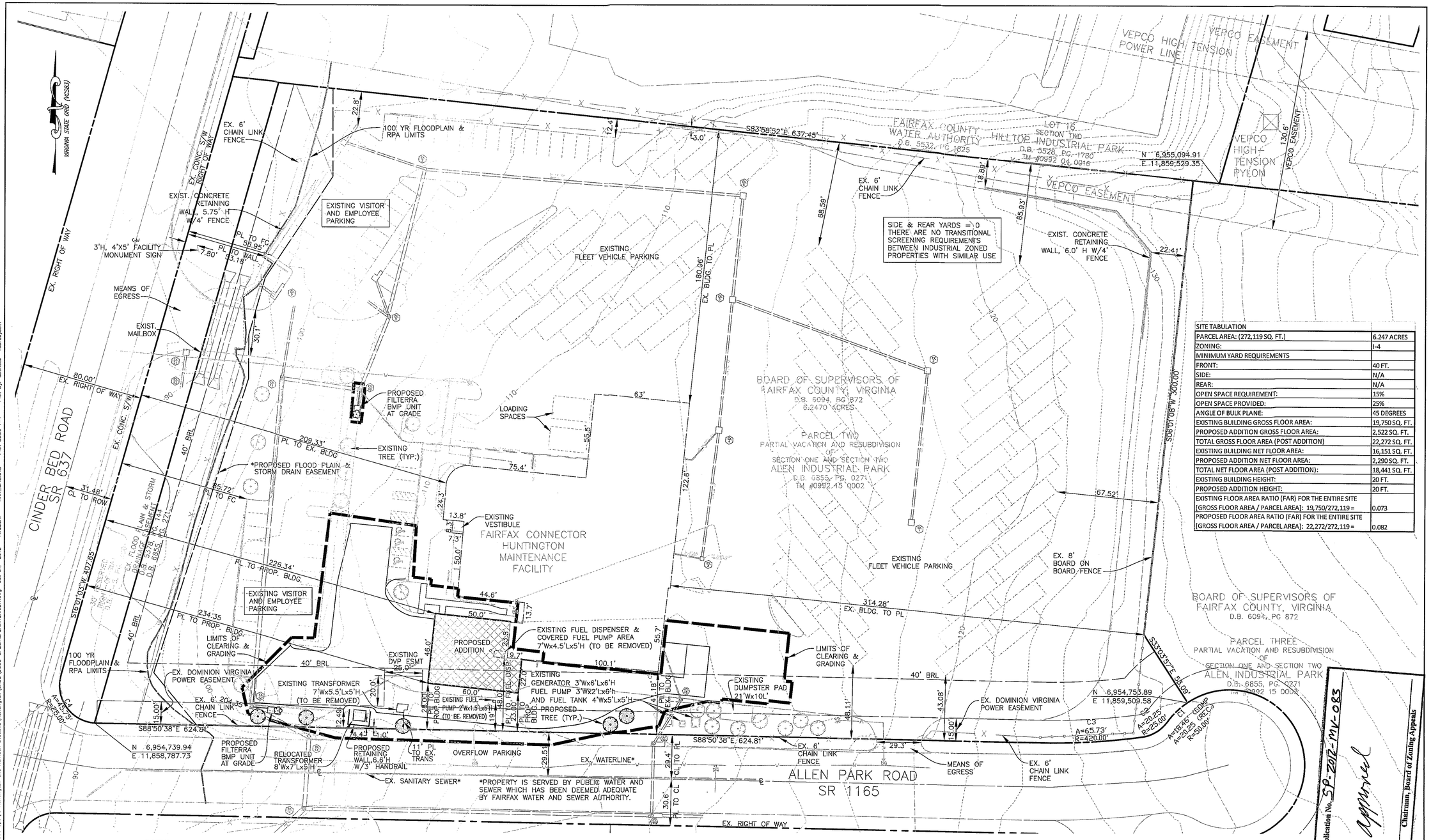
DEPARTMENT OF PUBLIC WORKS & ENVIRONMENTAL SERVICES
COUNTY OF FAIRFAX, VA

PROJECT TITLE: HUNTINGTON SERVICE LANE RENOVATIONS
MOUNT VERNON DISTRICT
8101 CINDER BED ROAD
FAIRFAX COUNTY, VIRGINIA

SHEET TITLE: COVER SHEET

RKK PROJECT #07077-04.C
F.C. PROJECT NO. 1157-SP-001-2
SCALE: AS NOTED
DATE: 10/16/12
SHEET NO. 001

M:\projects\2007\07077_FFX Transpo and Urban Design\867_077_04 West Ox Bus Ops\C Huntington and Herndon Stations\Huntington\CAD\0001-COVER.dwg Oct 12, 2012 - 11:33am RKK_SITE.CTB Plot Scale 1=25 Plot By: dbonsall Tab:BORDER



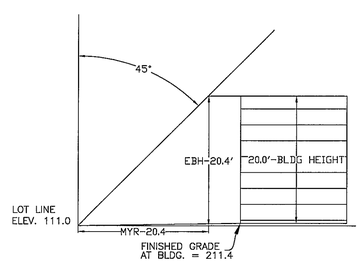
SITE TABULATION	
PARCEL AREA: (272,119 SQ. FT.)	6.247 ACRES
ZONING:	I-4
MINIMUM YARD REQUIREMENTS	
FRONT:	40 FT.
SIDE:	N/A
REAR:	N/A
OPEN SPACE REQUIREMENT:	15%
OPEN SPACE PROVIDED:	25%
ANGLE OF BULK PLANE:	45 DEGREES
EXISTING BUILDING GROSS FLOOR AREA:	19,750 SQ. FT.
PROPOSED ADDITION GROSS FLOOR AREA:	2,522 SQ. FT.
TOTAL GROSS FLOOR AREA (POST ADDITION)	22,272 SQ. FT.
EXISTING BUILDING NET FLOOR AREA:	16,151 SQ. FT.
PROPOSED ADDITION NET FLOOR AREA:	2,290 SQ. FT.
TOTAL NET FLOOR AREA (POST ADDITION):	18,441 SQ. FT.
EXISTING BUILDING HEIGHT:	20 FT.
PROPOSED ADDITION HEIGHT:	20 FT.
EXISTING FLOOR AREA RATIO (FAR) FOR THE ENTIRE SITE [GROSS FLOOR AREA / PARCEL AREA): 19,750/272,119 =	0.073
PROPOSED FLOOR AREA RATIO (FAR) FOR THE ENTIRE SITE [GROSS FLOOR AREA / PARCEL AREA): 22,272/272,119 =	0.082

LEGEND

EXISTING FENCE	EXISTING MONITORING WELL
LIMITS OF DISTURBANCE	EXISTING SIGN
EXISTING WATER	EX. UNIDENTIFIED MANHOLE
EXISTING SANITARY SEWER	EXISTING BOLLARD
ELECTRIC DUCT	EX. WATER VALVE
EXISTING GAS	EX. SANITARY MANHOLE
HAND HOLE	EXISTING STORM MANHOLE
EXISTING CONTOURS	EXISTING CLEAN OUT
EXISTING TREE	EXISTING STORM SEWER
PROPOSED TREE	EXISTING TELECOM BOX
EXISTING ELECTRIC BOX	UNDERGROUND TELEPHONE
EXISTING LIGHT POLE	UNDERGROUND FIBER OPTIC
EXISTING GAS VALVE	EXISTING GAS PUMP
EXISTING GAS METER	EXISTING FIRE HYDRANT
EX. UNIDENTIFIED VAULT	EXISTING FIRE DEPT. CONNECTION

* THE NEW RPA BOUNDARY IS BEING DEFINED AS THE LIMITS OF THE 100 YEAR FLOODPLAIN DELINEATED IN THE LONG BRANCH FLOODPLAIN STUDY (1157-FP-01-1, 2001). THE OLD RPA BOUNDARY AND FEMA FLOODPLAIN DEPICTED IN THE CURRENT FAIRFAX COUNTY GIS DATABASE ARE SHOWN FOR REFERENCE PURPOSES ONLY. NO WETLANDS WERE FOUND ON OR ADJACENT TO THE PROJECT SITE.

STORMWATER MANAGEMENT QUANITY CONTROL IS ACHIEVED BY THE EXISTING STORMWATER MANAGEMENT POND LOCATED ON FAIRFAX COUNTY PARCEL 99-2-15-1. AN ADEQUATE OUTFALL ANALYSIS IN COMPLIANCE WITH THE FAIRFAX COUNTY PUBLIC FACILITIES MANUAL WAS PERFORMED AS PART OF THIS PROJECT. STORMWATER MANAGEMENT QUALITY CONTROL IS PROVIDED BY THE TWO FILTERRA UNITS PROPOSED WITH THIS PROJECT. THE STORMWATER MANAGEMENT PLANS FOR THIS PROJECT HAVE BEEN REVIEWED AND APPROVED BY FAIRFAX COUNTY DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES.



ANGLE OF BULK PLANE DIAGRAM

Huntington Maintenance Facility - Parking Tabulation									
Existing Building:	19,750 SF								
Proposed Addition:	2,522 SF								
Total:	22,272 SF								
Use Category	# of Employees		Parking Factor		Parking Spaces		Bus Spaces		Total Spaces
Administration	2	X	1.00	=	2	+	0	=	2
Operations	53	X	1.00	=	53	+	85	=	138
Maintenance	11	X	1.00	=	11	+	0	=	11
Visitor	0	X	0.00	=	6	+	0	=	6
Totals (Max Shift)	66				72		85		157
Spaces Required:	157								
Spaces Provided:	187								

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

THE HUNTINGTON SERVICE LANE RENOVATIONS PROJECT HAS BEEN REVIEWED AND APPROVED BY FAIRFAX COUNTY URBAN FORESTRY FOR LANDSCAPING AND TREE PRESERVATION REQUIREMENTS.

GENERAL NOTES

1. BASE MAPPING SHOWN ON THIS DRAWING WAS DEVELOPED FROM THE FOLLOWING SOURCES:
   - LAND RECORDS AND FIELD SURVEY BY RICE AND ASSOCIATES DATED SEPTEMBER 1, 2010;
   - ADDITIONAL FIELD SURVEY PROVIDED BY RICE ASSOCIATES DATED DECEMBER 16, 2010.
   -BOUNDARY AND TOPOGRAPHIC INFORMATION BY FAIRFAX COUNTY DPW & ES/CMD, LAND SURVEY BRANCH
2. THE HORIZONTAL DATUM FOR THIS PROJECT IS VIRGINIA NORTH GRID MERIDIAN, NAD 83.
3. THE VERTICAL DATUM FOR THIS PROJECT IS NGVD 29.

Application No. SP-2012-MV-083
Approved
Chairman, Board of Zoning Appeals

FAIRFAX COUNTY DEPARTMENT OF TRANSPORTATION
8101 CINDER BED RD.
LORTON, VA 22079

Huntington Service Lane Renovations

1157-SP-001-2

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COMMONWEALTH OF VIRGINIA
William S. Springer
Lic. No. 024778
11/1/2012
PROFESSIONAL ENGINEER

NO.	BY	REVISIONS	DATE

DWG. TITLE

SPECIAL PERMIT EXHIBIT PLAT

DATE	11/01/12
SCALE	1" = 30'
DWN.	KAB
CHK.	WSS
PROJ. No.	07077-04C
DWG. No.	002

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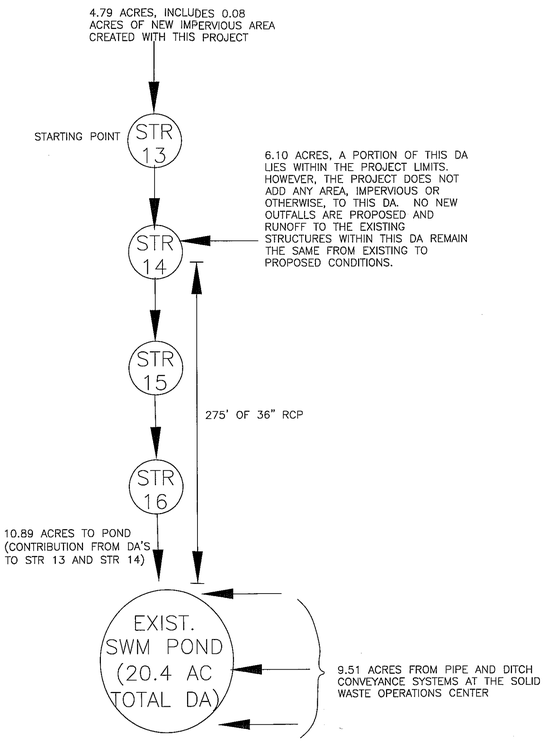

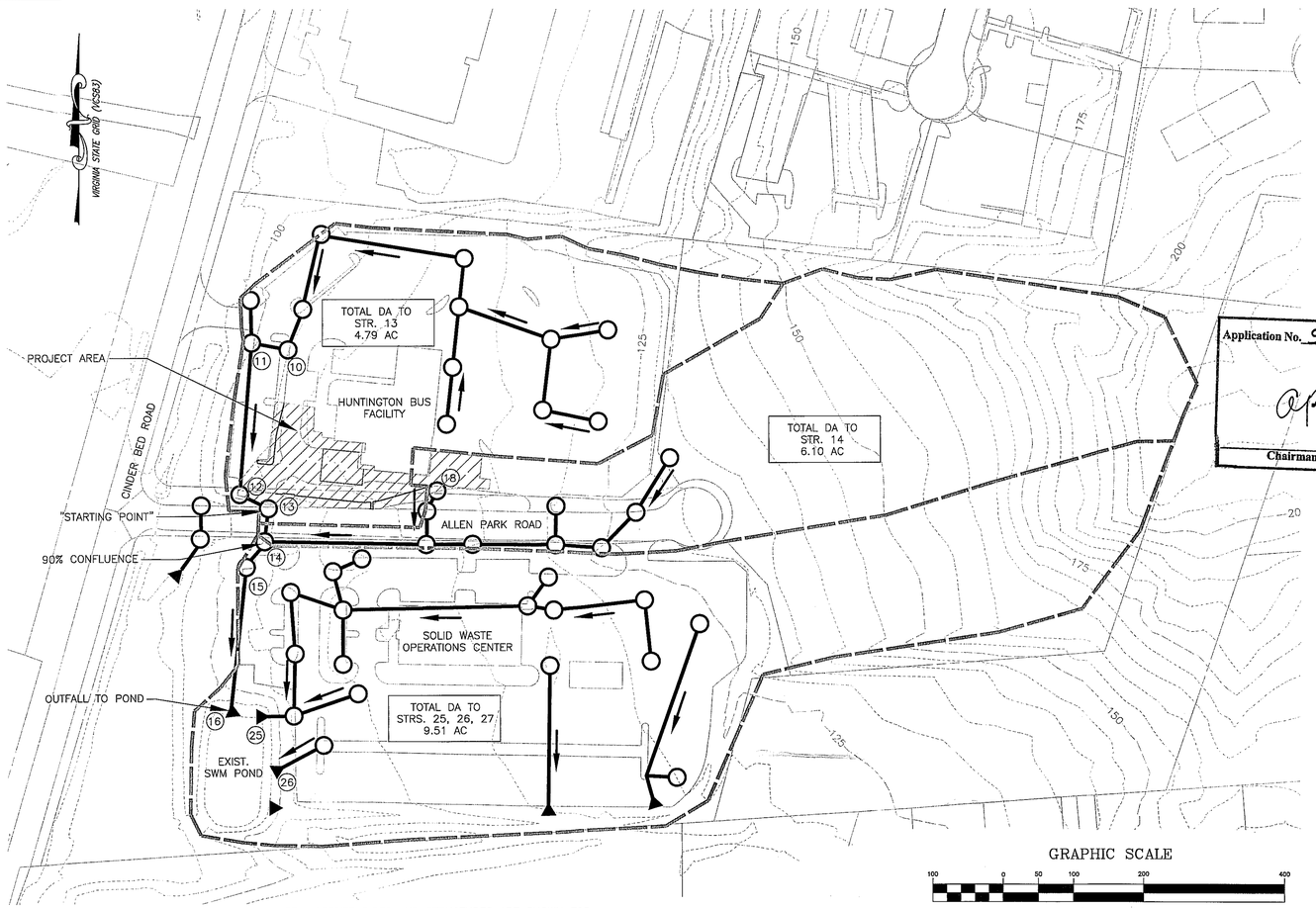

NOTE: OFFSITE PIPES AND STRUCTURES ARE SHOWN FOR GRAPHICAL PURPOSES TO DEMONSTRATE THE EXISTING PIPE NETWORK ONLY.

STORMWATER MANAGEMENT QUANTITY CONTROL NARRATIVE

THE SITE OF THE HUNTINGTON FEEDER BUS FACILITY IS APPROXIMATELY 6.2 ACRES AND WAS DEVELOPED PER THE SITE PLAN DATED DECEMBER 10, 1985 BY SPRINGFIELD ASSOCIATES SITE ENGINEERS. THE HUNTINGTON BUS FACILITY IS LOCATED IN NEWINGTON ON THE NORTH SIDE OF ALLEN PARK ROAD AT THE INTERSECTION WITH CINDER BED ROAD AND IS WITHIN THE LONG BRANCH WATERSHED. THE SITE IS BOUND BY CINDER BED ROAD TO THE WEST, ALLEN PARK ROAD TO THE SOUTH, OPEN WOODLAND TO THE EAST AND WAREHOUSE SPACE TO THE NORTH. THE SITE GENERALLY SLOPES FROM THE EAST TO THE WEST WITH THE SITE DRAINAGE BEING COLLECTED IN A STORM DRAIN SYSTEM WHICH CONVEYS DRAINAGE TO THE EXISTING STORMWATER MANAGEMENT POND LOCATED ON THE PARCEL TO THE SOUTH ON THE OPPOSITE SIDE OF ALLEN PARK ROAD. THE STORMWATER MANAGEMENT POND WHICH SERVICES THE SITE WAS CONSTRUCTED WITH THE SITE PLAN DATED 1985 WHICH ALSO DEVELOPED THE REST OF THE SITE.

THE PROPOSED IMPROVEMENTS TO THE SITE CONSIST OF ADDING TWO MAINTENANCE BAYS AND WIDENING THE ACCESS DRIVE WHICH PROVIDES VEHICULAR CIRCULATION AROUND THE MAINTENANCE FACILITY. THE PROPOSED MAINTENANCE BAYS ARE BEING CONSTRUCTED ON TOP OF EXISTING CONCRETE PAVING AND THEREFORE DO NOT REPRESENT AND INCREASE IN THE IMPERVIOUS AREA OF THE SITE. THE WIDENING OF THE ACCESS DRIVE CREATES AN ADDITION TO THE SITE IMPERVIOUS AREA OF 0.08 ACRES.

THE PROPOSED IMPROVEMENTS TO THE SITE DO NOT GREATLY CHANGE THE EXISTING DRAINAGE PATTERNS. THE DRAINAGE FROM THE ADDITIONAL IMPERVIOUS AREA CREATED WITH THIS PLAN SHEET FLOWS TO EXISTING INLET 12 AND THE PROPOSED ROOF AREA OF THE ADDITION TO THE BUILDING IS COLLECTED AND CONVEYED TO EXISTING STRUCTURE 13 VIA THE EXISTING ROOF DRAIN COLLECTION SYSTEM. PROPOSED DRAINAGE DIVIDES ARE SHOWN ON SHEET C017. IN ORDER TO ACCOMMODATE THE ADDITIONAL SERVICE BAYS AND THE REQUIRED GRADE, THE EXISTING TRAVEL WAY HAS BEEN RE-GRADED TO PULL THE HIGH POINT OF THE TRAVEL WAY FURTHER TO THE SOUTH TO ALLOW FOR ACCEPTABLE GRADES IN FRONT OF THE SERVICE BAYS. ADDITIONAL AREA IN THE PROPOSED CONDITION WILL DRAIN TO EXISTING STRUCTURE 10. EXISTING STRUCTURE HAS BEEN ANALYZED IN THE PROPOSED CONDITION AND HAS THE REQUIRED INLET CAPACITY AND PIPE CAPACITY TO ACCOMMODATE THE ADDITIONAL DRAINAGE. THE EXISTING STORM DRAIN SYSTEM HAS BEEN ANALYZED FROM EXISTING INLET 10 DOWNSTREAM TO EXISTING STRUCTURE 16 WHICH IS THE OUTLET TO THE EXISTING STORMWATER MANAGEMENT POND. CALCULATIONS FOR CAPACITY AND HYDRAULIC GRADE LINE ARE SHOWN ON SHEET C017.

THE 1985 SITE PLAN WHICH DEVELOPED THE SITE AND DESIGNED THE STORMWATER MANAGEMENT POND WHICH SERVICES THE SITE PROVIDED STORMWATER MANAGEMENT QUANTITY CONTROL FOR THE 6.2 ACRES HUNTINGTON BUS FACILITY SITE AS WELL AS FOR AN ADDITIONAL 18.8 ACRES. PER THE 1985 SITE PLAN, THE PRE-DEVELOPMENT AND POST-DEVELOPMENT FLOWRATES FOR THE 6.2 ACRE HUNTINGTON BUS FACILITY SITE ARE LISTED IN THE TABLE BELOW.

	Pre-Development	Post-Development (after detention in existing SWM pond)
2 Year peak runoff, CFS	11.83	11.83
10 Year peak runoff, CFS	15.78	15.78

THE EXISTING STORMWATER MANAGEMENT POND WAS SIZED TO REDUCE THE POST-DEVELOPMENT 2 YEAR AND 10 YEAR PEAK RUNOFF RATES TO PRE-DEVELOPMENT LEVELS AS SHOWN IN THE TABLE ABOVE FROM INFORMATION PROVIDED IN THE 1985 SITE PLAN. THE PRE-DEVELOPMENT AND POST-DEVELOPMENT FLOWRATES WERE CALCULATED USING THE RATIONAL METHOD AND A CONSERVATIVE ASSUMED POST-DEVELOPMENT WEIGHTED "C" VALUE OF 0.90 TO ALLOW FOR FUTURE DEVELOPMENT AT THE 6.2 ACRE HUNTINGTON BUS FACILITY SITE. THESE CALCULATIONS CAN BE FOUND ON SHEETS C016 AND C017. PER THE STORM SEWER CALCULATIONS FOR THE HUNTINGTON BUS FACILITY SITE FROM THE 1985 SITE PLANS AND THE CURRENT IMPERVIOUS AREA CONSTRUCTED AT THE SITE, THE ACTUAL COMPUTED "C" VALUE FOR THE 6.2 ACRES SITE, NOT INCLUDING THE IMPERVIOUS AREA PROPOSED WITH THIS PLAN, IS 0.77. SEE THE SUMMARY TABLE BELOW.

Total Site Area, (AC)	6.20
Assumed Post-Development "C" Value per 1985 Site Plan	0.90
Assumed Post-Development Impervious Area per 1985 Site Plan, (AC)	6.20
Actual Post-Develoment Impervious Area per 1985 Site Plan, (AC)	4.70
Computed Post-Development "C" Value per 1985 Site Plan	0.77
Proposed Additional Impervious Area, (AC)	0.08
Total Proposed Post-Development Impervious Area, (AC)	4.78
Computed Proposed Post-Development "C" Value	0.78

THE PROPOSED DEVELOPMENT AND WIDENING OF THE ACCESS DRIVE AROUND THE ADDITION WILL RESULT IN AN ADDITIONAL 0.08 ACRES OF IMPERVIOUS AREA. AS SHOWN IN THE TABLE ABOVE, PER THE 1985 SITE PLAN, THE EXISTING STORMWATER MANAGEMENT POND WAS DESIGNED FOR THE ENTIRE 6.2 ACRE HUNTINGTON BUS FACILITY SITE TO BE IMPERVIOUS TO ALLOW FOR FUTURE DEVELOPMENT. HOWEVER, THE ACTUAL IMPERVIOUS AREA EXISTING AT THE SITE IS 4.70 ACRES. WITH THE ADDITION OF THE 0.08 ACRES OF IMPERVIOUS AREA PROPOSED WITH THIS PLAN, THE TOTAL POST-DEVELOPMENT SITE IMPERVIOUS AREA IS ONLY 4.78 ACRES, WHICH IS 1.42 ACRES OF IMPERVIOUS AREA BELOW WHAT THE EXISTING STORMWATER MANAGEMENT POND WAS DESIGNED TO HANDLE AS THE POST-DEVELOPMENT CONTRIBUTION FROM THE 6.2 ACRE SITE. CONSEQUENTLY, THE EXISTING STORMWATER MANAGEMENT POND SERVICING THE SITE IS ADEQUATE FOR THE IMPROVEMENTS PROPOSED WITH THIS PLAN.

ADEQUATE OUTFALL NARRATIVE

CLOSED STORM SEWER SYSTEM OUTFALL:

THE PROPOSED IMPROVEMENTS TO THE SITE DO NOT INCLUDE THE ADDITION OF ANY NEW STORM SEWER PIPING, EXCEPT FOR THE UNDERDRAIN CONNECTIONS FROM THE PROPOSED FILTERRA UNITS INTO EXISTING STRUCTURE 12 AND EXISTING STRUCTURE 10. THE AREA WITHIN THE PROJECT LIMITS, EXCEPT FOR A SMALL AREA OF APPROXIMATELY 500 SQUARE FEET, IS EITHER COLLECTED BY THE EXISTING STORM DRAIN SYSTEM WITHIN THE PERIMETER CURB OR SHEET FLOWS DOWN THE EXISTING SLOPE TO THE EXISTING CURB INLETS ALONG ALLEN PARK ROAD AND IS CONVEYED TO THE EXISTING STORMWATER MANAGEMENT POND SOUTH OF THE SITE. A SMALL 380 SQUARE FOOT AREA WHICH IS NOT COLLECTED IN THE EXISTING STORM SYSTEM FLOWING TO THE POND IS UNCHANGED FROM EXISTING CONDITIONS AND IS COLLECTED IN AN EXISTING CURB INLET ALONG ALLEN PARK ROAD. TO SATISFY ADEQUATE OUTFALL REQUIREMENTS, THE EXISTING STORM SEWER SYSTEM HAS BEEN ANALYZED FOR THE POST-DEVELOPMENT 10 YEAR STORM FROM EXISTING STRUCTURE 10 DOWNSTREAM TO EXISTING STRUCTURE 16 AND THE EXISTING STORMWATER MANAGEMENT POND. AS INDICATED IN THE STORMWATER QUANTITY NARRATIVE, THE EXISTING STORMWATER MANAGEMENT POND WAS DESIGNED TO HANDLE THE PROPOSED DEVELOPMENT SHOWN ON THIS PLAN AND THE DISCHARGE OUT OF THE EXISTING POND MATCHES PRE-DEVELOPMENT LEVELS.

ADEQUATE OUTFALL FOR THIS PROJECT HAS BEEN EVALUATED PER THE CRITERIA OF 6-203.2 & 6-0203.2A WHICH STATES, "THE EXTENT OF THE REVIEW OF THE DOWNSTREAM DRAINAGE SYSTEM SHALL BE: TO A POINT THAT IS AT LEAST 150 DOWNSTREAM OF A POINT WHERE THE RECEIVING PIPE OR CHANNEL IS JOINED BY ANOTHER THAT HAS A DRAINAGE AREA THAT IS AT LEAST 90 PERCENT OF THE SIZE OF THE FIRST DRAINAGE AREA AT THE POINT OF CONFLUENCE."

THE PROPOSED PROJECT DOES NOT CREATE ANY NEW OUTFALLS TO THE EXISTING STORM DRAIN SYSTEM BUT DOES CONVERT 0.08 ACRES OF EXISTING LAWN TO NEW IMPERVIOUS AREA. HOWEVER, DESPITE THE ADDITIONAL IMPERVIOUS AREA, THE OVERALL DRAINAGE AREA OF THE EXISTING STORM DRAIN SYSTEM DOES NOT INCREASE. THE EXISTING STORM DRAIN INLET AND PIPE SYSTEM COLLECTS THE RUNOFF FROM THE PROJECT SITE WITH THE NEW IMPERVIOUS AREA AND LOCAL CHANGES TO THE DRAINAGE AREAS OF STRUCTURES OCCURRING WITHIN THE DRAINAGE AREA TO EXISTING STRUCTURE 13. EXISTING STRUCTURE 13 IS DEFINED AS THE "STARTING POINT" FOR THE OUTFALL ANALYSIS AS IT IS WHERE THE RUNOFF FROM DRAINAGE AREAS MODIFIED BY THE PROPOSED PROJECT MEETS THE EXISTING STORM DRAIN SYSTEM. THE PROPOSED DRAINAGE SHED AND "FIRST DRAINAGE AREA" AT THE "STARTING POINT" OF EXISTING STRUCTURE 13 IS EQUAL TO 4.79 ACRES. A PORTION OF THE DRAINAGE AREA TO EXISTING INLET 18 LIES WITHIN THE PROJECT AREA HOWEVER NO NEW AREA, IMPERVIOUS OR OTHERWISE, IS BEING ADDED TO THE DRAINAGE AREA OF EXISTING INLET 18. EXISTING INLET 18 IS NOT BEING MODIFIED IN ANY WAY SO IT IS CONSIDERED PART OF THE EXISTING DRAINAGE SHED NOT THE PROPOSED DRAINAGE SHED.

EXISTING STRUCTURE 14 HAS TWO POINTS OF INFLOW, FROM EXISTING STRUCTURE 13, AND FROM THE STORM DRAIN PIPE WITH THE 6.10 ACRE DRAINAGE SHED. THE TOTAL DRAINAGE AREA AT EXISTING STRUCTURE 14 IS 10.89 ACRES. THE PROPOSED DRAINAGE SHED IS 4.79 ACRES. SUBTRACTING 4.79 FROM 10.89 RESULTS IN THE 6.10 ACRE DRAINAGE AREA. 6.10 ACRES IS AT LEAST 90% OF THE "FIRST DRAINAGE AREA" OF 4.79 ACRES. THEREFORE, THE EXTENT OF REVIEW IS 150' DOWNSTREAM OF EXISTING INLET 14.

EXISTING STORM DRAIN PIPES 14-15 AND 15-16 HAVE A TOTAL LENGTH OF 275' WHICH IS GREATER THAN THE 150' EXTENT OF REVIEW FOR ADEQUACY, STABILITY, AND CAPACITY. AT EXISTING STRUCTURE 16, THE STORM SYSTEM OUTLETS INTO AN EXISTING STORMWATER MANAGEMENT POND SHOWN TO BE ADEQUATE IN THE STORMWATER MANAGEMENT QUANTITY CONTROL NARRATIVE. THE EXISTING STORM SEWER SYSTEM BETWEEN EXISTING STRUCTURE 14 AND EXISTING STRUCTURE 16 IS 36" RCP. THE EXISTING STORM SEWER SYSTEM FROM THE PROJECT SITE TO THE OUTFALL AT EXISTING STRUCTURE 16 HAS BEEN PROFILED IN LIEU OF PROVIDING CROSS-SECTIONS. PIPE CAPACITY CALCULATIONS AND HYDRAULIC GRADE LINE CALCULATIONS HAVE BEEN PERFORMED AND CAN BE FOUND ON SHEET C021 ALONG WITH THE PROFILE. THE PROPOSED FLOW IN THE PIPE IS BELOW THE CALCULATED CAPACITY AND THE HYDRAULIC GRADE LINE IS ADEQUATE. THE OUTFALL OF EXISTING STRUCTURE 16 TO THE STORMWATER MANAGEMENT POND WAS OBSERVED TO BE IN GOOD CONDITION AND SHOWED NO SIGNS OF EROSION OR INADEQUACY. HENCE, THERE WILL BE NO ADVERSE IMPACT TO ADJACENT OR DOWNSTREAM PROPERTIES AND ADEQUACY OF THE OUTFALL IS MET.

WATER QUALITY COMPLIANCE

FAIRFAX COUNTY CRITERIA AND THE NORTHERN VIRGINIA BMP HANDBOOK METHODOLOGIES HAVE BEEN USED TO MEET THE WATER QUALITY REQUIREMENTS FOR THIS PROJECT. THE GOAL IS TO PROVIDE 24.48% PHOSPHORUS REMOVAL FOR THE SITE BASED ON THE PROPOSED INCREASED IMPERVIOUS AREA CREATED BY THE REDEVELOPMENT. THIS IS BASED UPON REQUIREMENTS CONTAINED IN THE NORTHERN VIRGINIA BMP HANDBOOK (11/6/92, PAGE AMENDED 9/9/94), SECTION 111a. "PHOSPHORUS REMOVAL – OCCOQUAN METHOD". THIS PROJECT IS LOCATED IN A CHESAPEAKE BAY PRESERVATION AREA AND WILL BE CLASSIFIED AS A REDEVELOPMENT. IN ORDER TO MEET THESE CRITERIA, THE FOLLOWING HAS BEEN PROPOSED.

TREE BOX FILTER: TO MEET THE WATER QUALITY REQUIREMENT, FILTERRA® TREE BOX FILTERS WERE SELECTED FOR IMPLEMENTATION. THESE FACILITIES ARE DESIGNED TO CAPTURE POLLUTANTS IN STORMWATER RUNOFF AS IT FLOWS THROUGH A SPECIALLY DESIGNED FILTER MEDIA MIXTURE CONTAINED IN A LANDSCAPED CONCRETE CONTAINER. THE FILTER MEDIA CAPTURES AND IMMOBILIZES POLLUTANTS; THOSE POLLUTANTS ARE THEN DECOMPOSED, VOLATILIZED AND INCORPORATED INTO THE BIOMASS OF THE FILTERRA® SYSTEM'S MACRO/MACRO FAUNA AND FLORA. STORMWATER RUNOFF FLOWS THROUGH THE MEDIA AND INTO AN UNDERDRAIN SYSTEM AT THE BOTTOM OF THE CONTAINER, WHERE THE TREATED WATER IS DISCHARGED. HIGHER FLOWS BYPASS THE FILTERRA® VIA A DOWNSTREAM INLET STRUCTURE.

THE PHOSPHORUS REMOVAL SUMMARY (OCCOQUAN METHOD) TABLE SHOWN ON THIS SHEET SUMMARIZES THE BMP CALCULATIONS. THE RESULTANT TOTAL PHOSPHROUS REMOVAL FOR THIS SITE IS 24.92%.

Application No. SP 2012-MV-083
approved
Chairman, Board of Zoning Appeals
1157-SP-001-2

FAIRFAX COUNTY DEPARTMENT OF TRANSPORTATION
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LORTON, VA 22079

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COMMONWEALTH OF VIRGINIA
WILLIAM S. SPRINGER
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10/16/2012
PROFESSIONAL ENGINEER

Huntington Service Lane Renovations

NO.	BY	REVISIONS	DATE

DWG. TITLE

ADEQUATE OUTFALL PLAN

DATE 10/16/12
SCALE 1" = 100'
DWN. KAB CHK. WSS
PROJ. No. 07077-04C
DWG. No.

003

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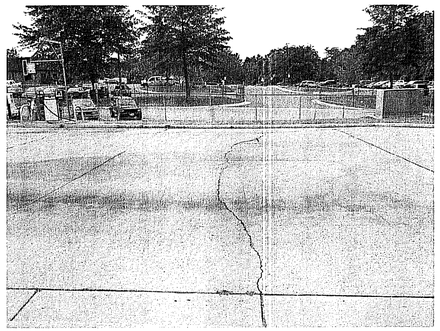

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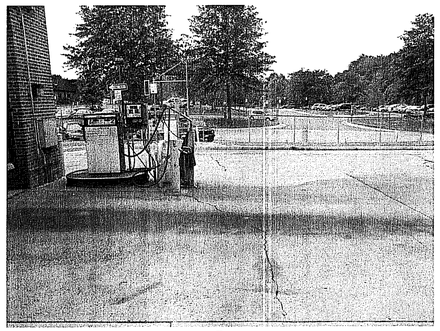

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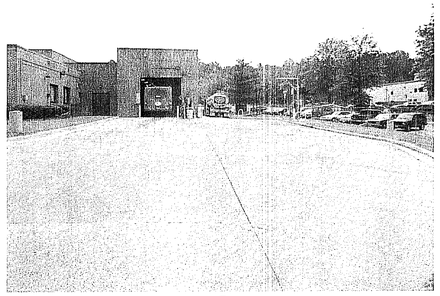

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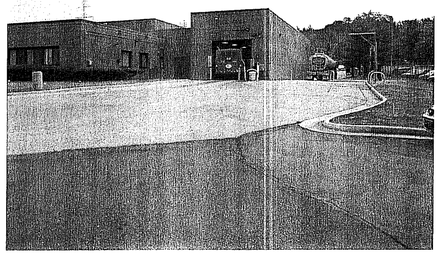

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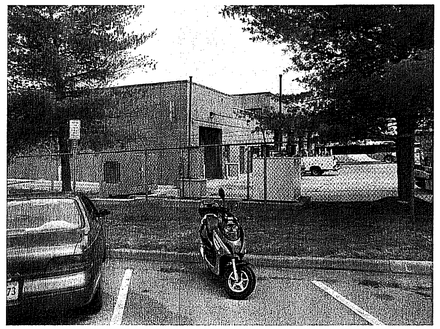

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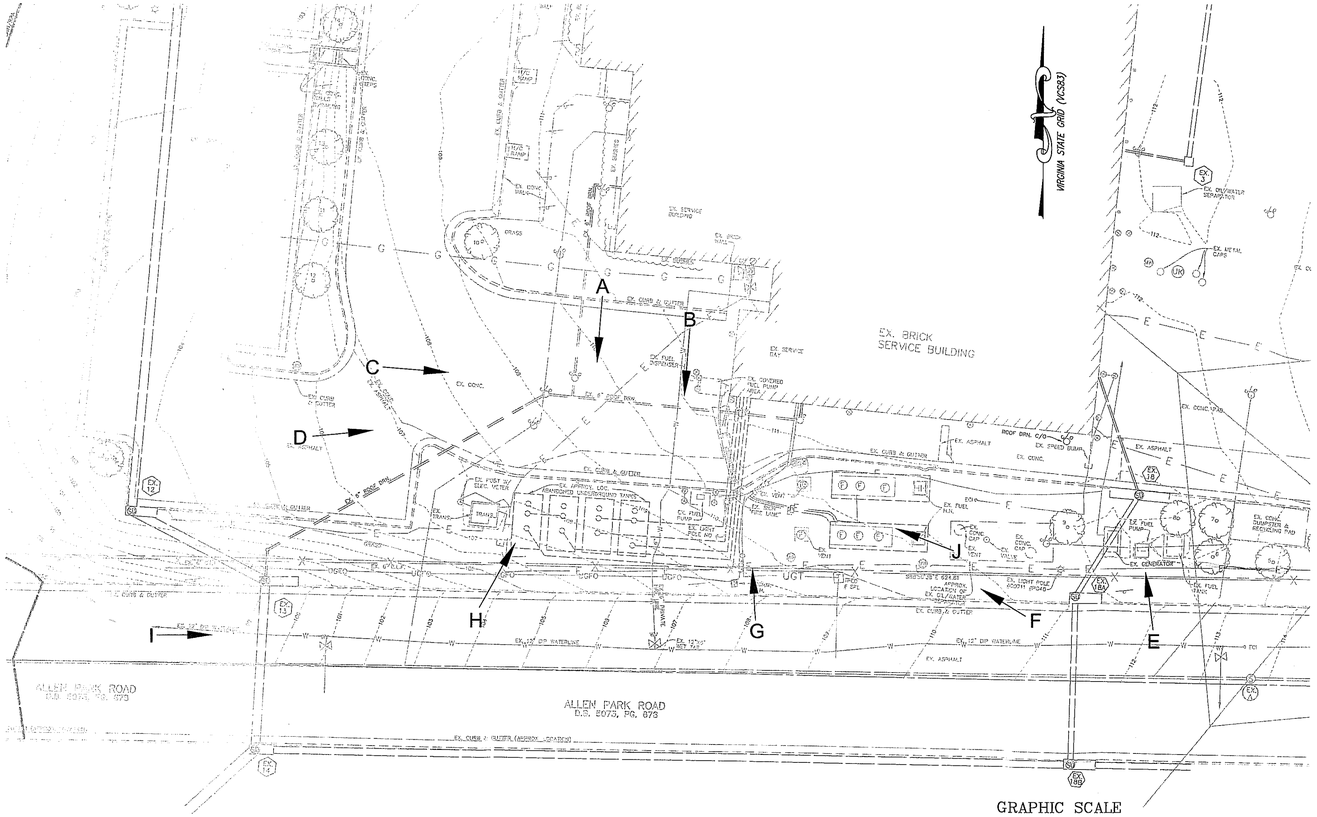

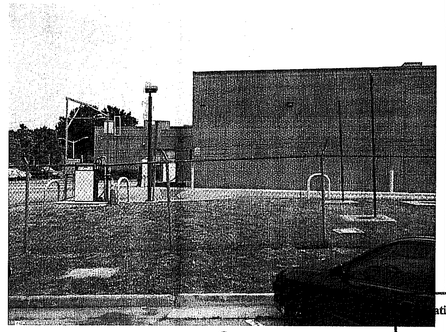

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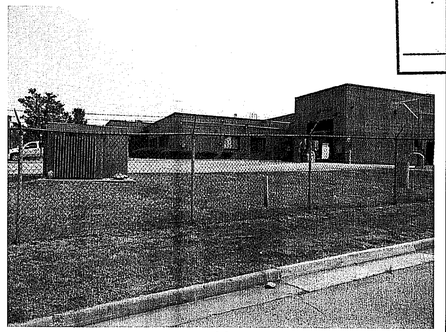

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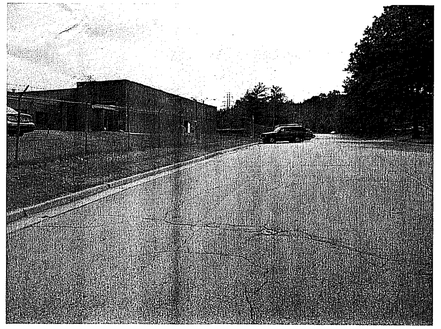

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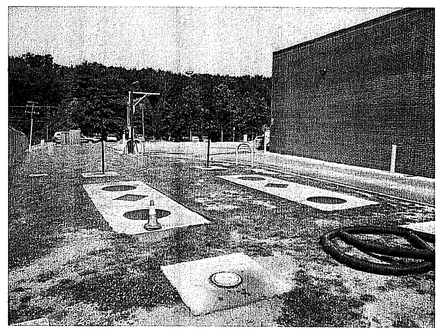

J

Approved

Chairman, Board of Zoning Appeals

FAIRFAX COUNTY
DEPARTMENT OF
TRANSPORTATION
8101 CINDER BED RD.
LORTON, VA 22079

Huntington Service Lane
Renovations

1157-SP-001-2

Application No. SP 2012-MV-083

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COMMONWEALTH OF VIRGINIA
WILLIAM S. SPRINGER
Lic. No. 024778
10/16/2012
PROFESSIONAL ENGINEER

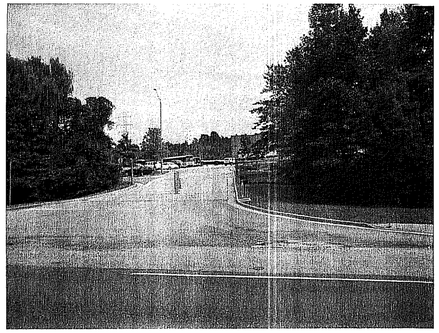
NO.	BY	REVISIONS	DATE

DWG. TITLE

PICTURE
EXHIBIT
PLAN

DATE	10/16/12
SCALE	1" = 20'
DWN.	KAB
CHK.	WSS
PROJ. No.	07077-04C
DWG. No.	004

M:\projects\2007\07077_FFX Transpo and Urban Design\807_077_04 West Ox Bus Ops\C Huntington and Herndon Stations\Huntington\CADD\D004-PICTURE EXHIBIT PLAN.dwg Oct 12, 2012 - 11:46am RKK_SITE.CTB Plot Scale 1=1 Plot By: dbonsall Tab:Layout1



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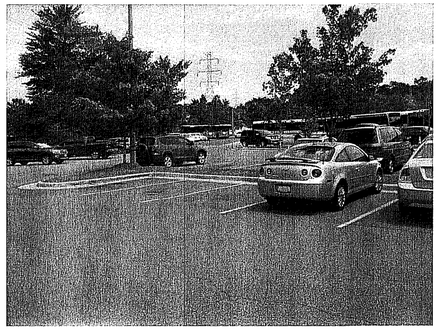

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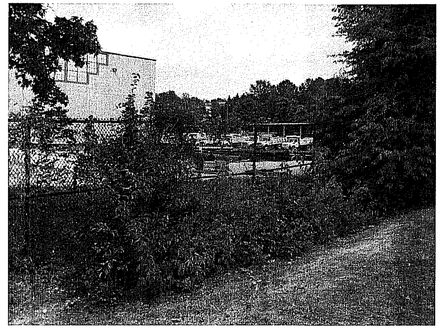

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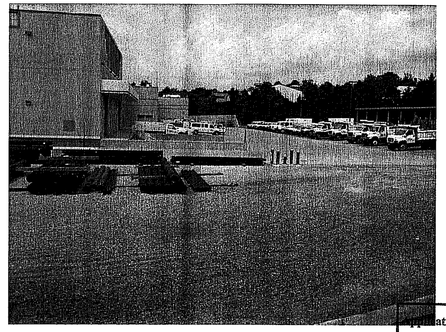

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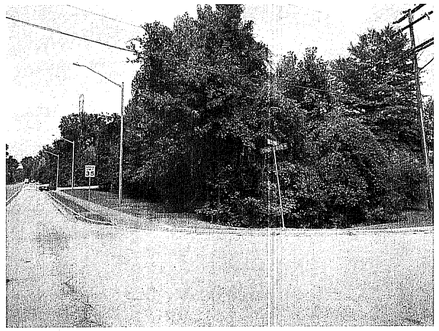

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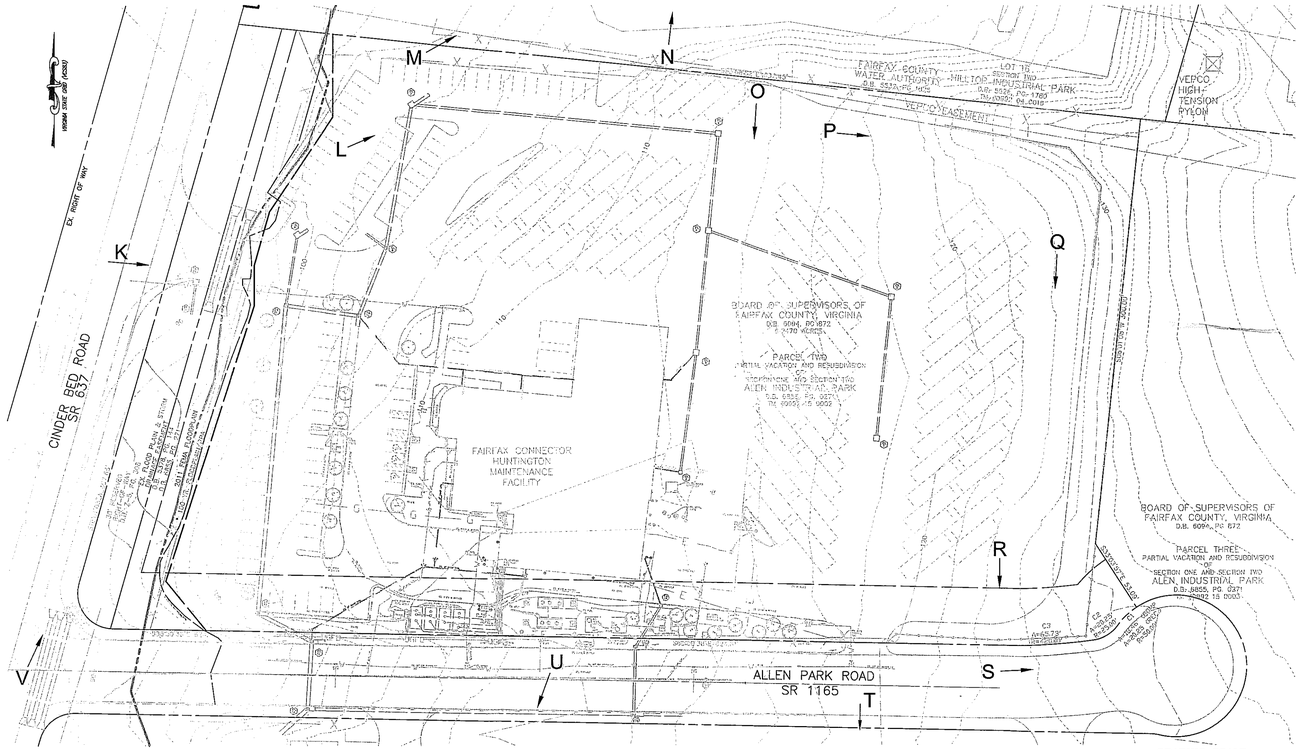

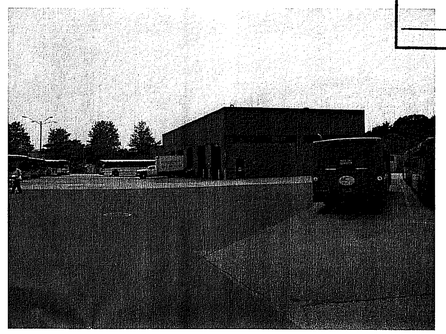

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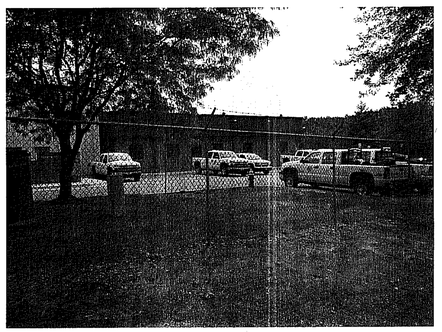

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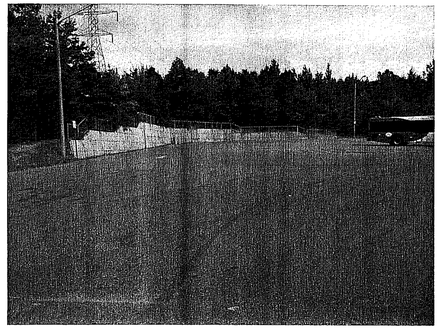

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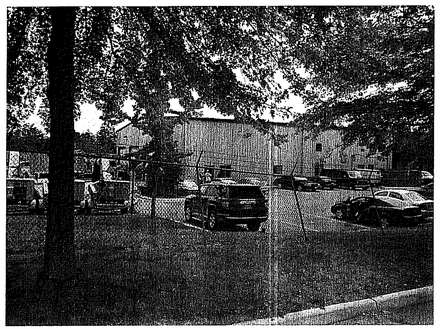

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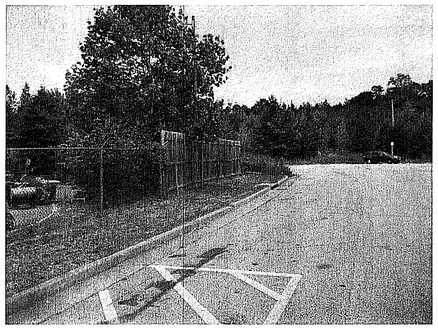

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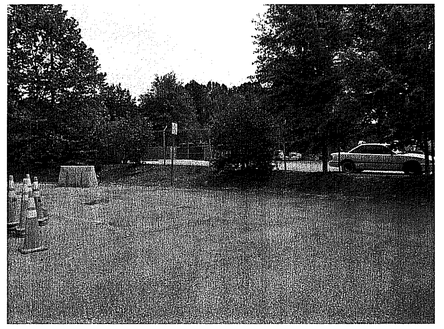

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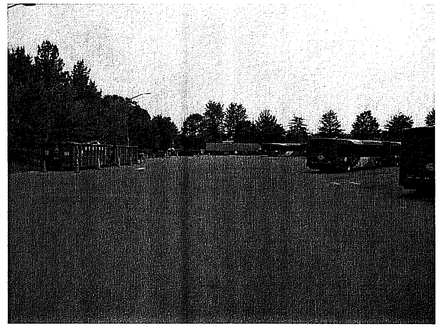

Q

FAIRFAX COUNTY
DEPARTMENT OF
TRANSPORTATION
8101 CINDER BED RD.
LORTON, VA 22079

Huntington Service Lane
Renovations

1157-SP-001-2
Application No. SP 2012-MV-083

Approved

Chairman, Board of Zoning Appeals

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COMMONWEALTH OF VIRGINIA
WILLIAM S. SPRINGER
Lic. No. 024778
10/16/2012
PROFESSIONAL ENGINEER

NO.	BY	REVISIONS	DATE

DWG. TITLE

PICTURE
EXHIBIT
PLAN

DATE	10/16/12
SCALE	1" = 50'
DWN.	KAB
CHK.	WSS
PROJ. No.	07077-04C
DWG. No.	004A

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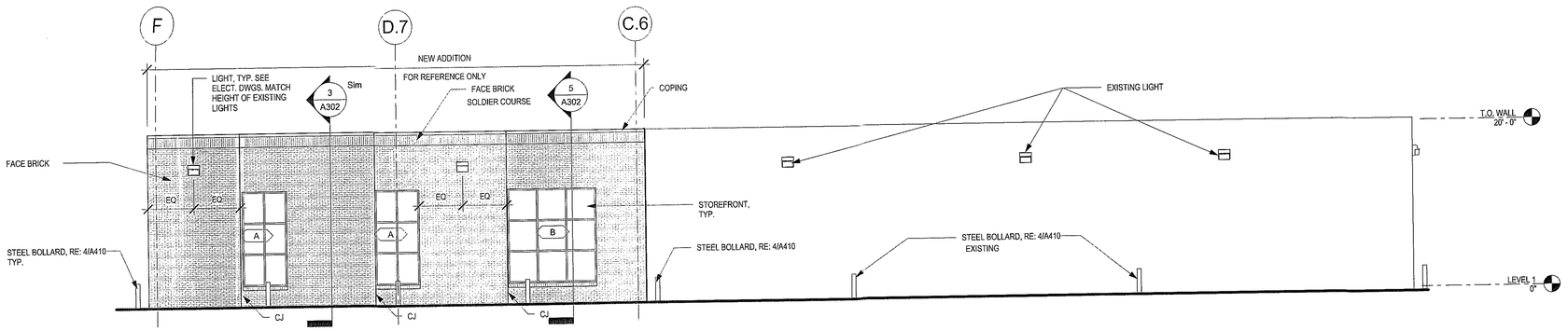

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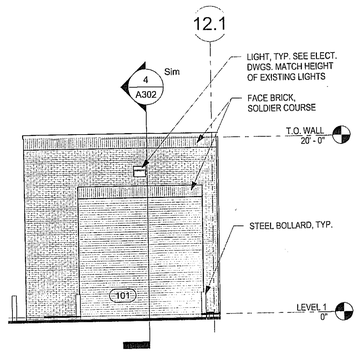
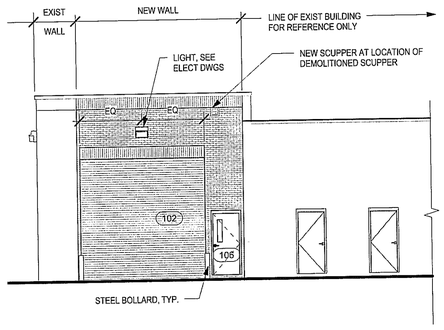
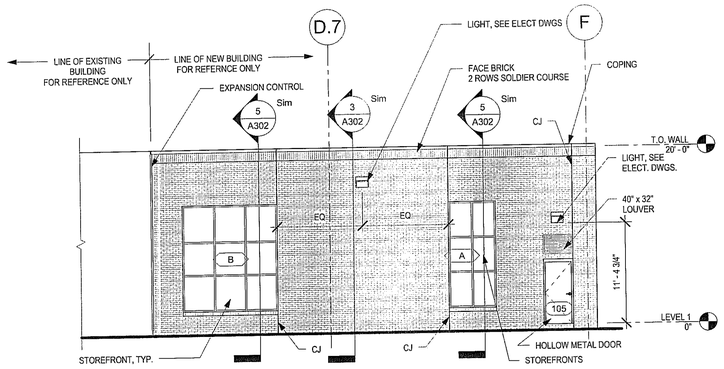
1/8" = 1'-0"



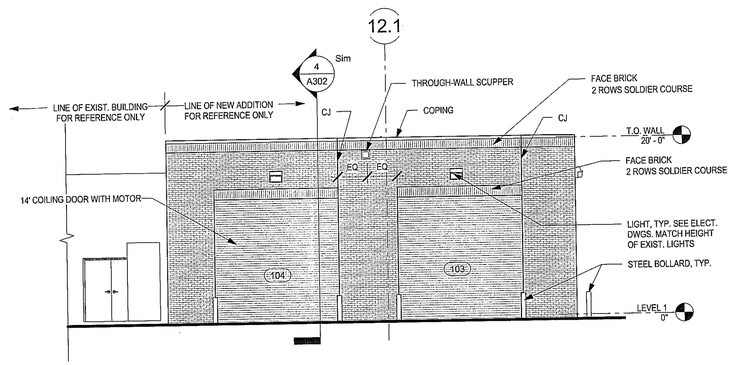


2a PARTIAL EAST ELEVATION
1/8" = 1'-0"

2b PARTIAL EAST ELEVATION
1/8" = 1'-0"



3 PARTIAL NORTH ELEVATION
1/8" = 1'-0"



4 PARTIAL WEST ELEVATION
1/8" = 1'-0"

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WILLOW WOOD II, SUITE 240
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(P) 703 246-0228
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COMMONWEALTH OF VIRGINIA
PHILIP DOUGLAS MUSE
Lic. No. 12633
ARCHITECT

Huntington Service Lane Renovations

Bus Servicing Improvements

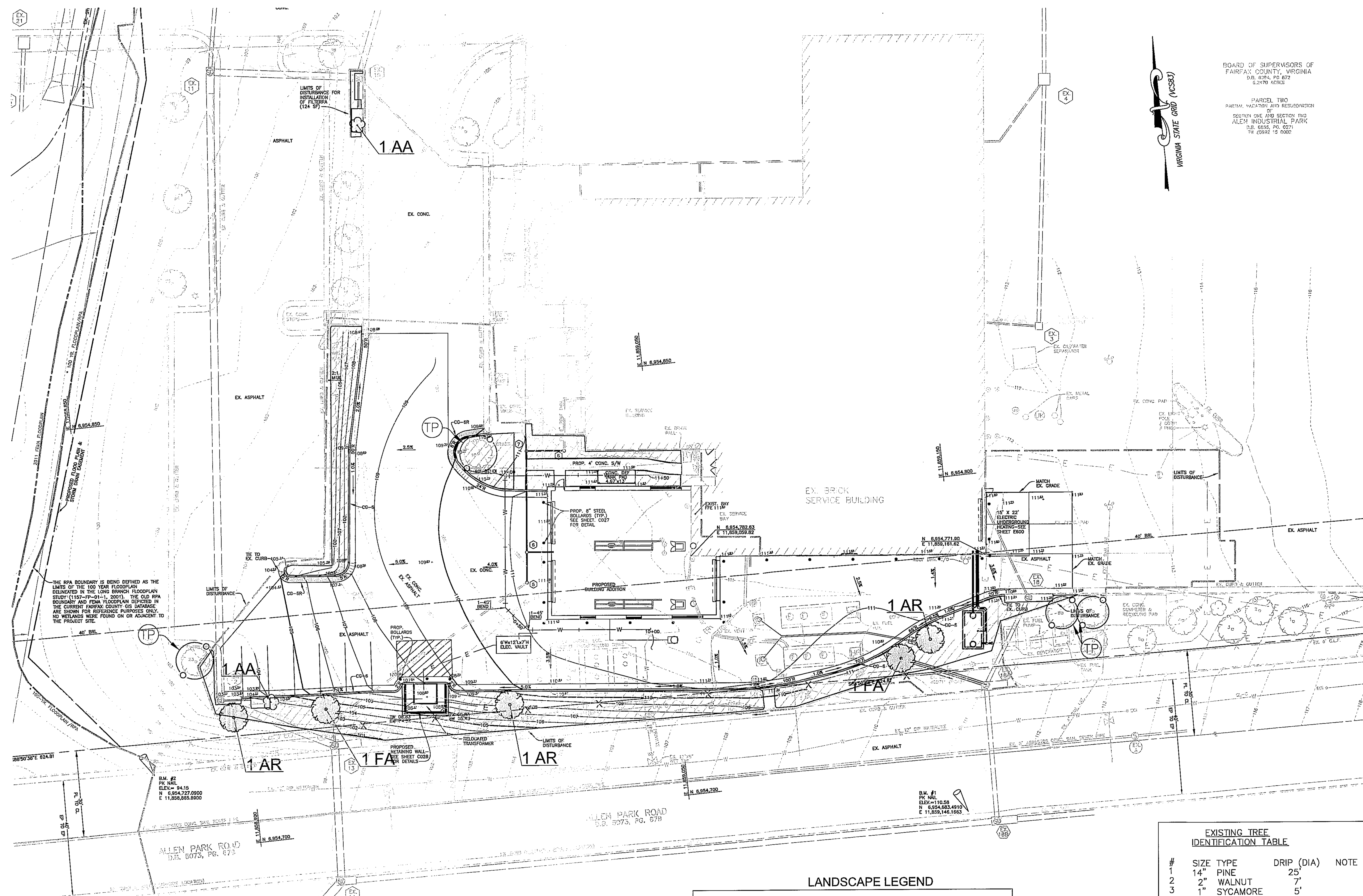
DWG. TITLE

EXTERIOR ELEVATIONS

Application No. SP 2012-MV-083
Approved
Chairman, Board of Zoning Appeals

DATE 10/16/12
SCALE 1/8" = 1'-0"
DWN. KJP CHK. JPK
PROJ. No. 437102
DWG. No.

005



LANDSCAPE LEGEND

- EXISTING TREE, W/ NO PROTECTION
- EXISTING TREE, WITH PROTECTION
- PROPOSED TREE
- LIMITS OF SEEDING/SODDING

TREE PRESERVATION NARRATIVE

THE SITE OF THE HUNTINGTON FEEDER BUS FACILITY IS AN EXISTING FACILITY APPROXIMATELY 6.2 ACRES AND WAS DEVELOPED PER THE SITE PLAN DATED DECEMBER 10, 1985 BY SPRINGFIELD ASSOCIATES SITE ENGINEERS. THE HUNTINGTON BUS FACILITY IS LOCATED IN NEWINGTON ON THE NORTH SIDE OF ALLEN PARK ROAD AT THE INTERSECTION WITH CINDER BED ROAD AND IS WITHIN THE LONG BRANCH WATERSHED AND IS AN EXISTING BUS MAINTENANCE FACILITY OWNED AND OPERATED BY FAIRFAX COUNTY.

THIS PLAN PROPOSED AN ADDITION TO THE EXISTING MAINTENANCE FACILITY OF TWO BUS BAYS AND A DRIVE AISLE TO PROVIDE CIRCULATION AROUND THE ADDITION. THE LIMITS OF DISTURBANCE ASSOCIATED WITH THE PROPOSED ADDITION AND DRIVE AISLE IS APPROXIMATELY 0.61 ACRES. SINCE THIS PROJECT IS A MINOR ADDITION TO THE SITE, THE LIMITS OF DISTURBANCE ARE USED AS THE SITE AREA FOR THE PURPOSE OF TREE PRESERVATION AND CANOPY CALCULATIONS.

THE EXISTING TREES WITHIN AND NEAR THE LIMITS OF DISTURBANCE HAVE BEEN IDENTIFIED ON THE EXISTING CONDITIONS PLAN SHEETS C003 & C004 AND CORRESPONDING TABLE. THERE ARE NO "SPECIMEN", " HERITAGE" OR "MEMORIAL" TREES ON THE SITE.

THE PROPOSED IMPROVEMENTS WILL REQUIRE THE REMOVAL OF ONLY FOUR EXISTING TREES, #9, #11, #12, #13. THE TREES ARE IDENTIFIED ON DEMOLITION PLAN SHEET C006 AS "TO BE REMOVED" DURING THE INITIAL DEMOLITION PHASE OF THE PROJECT, AFTER INSTALLATION OF TREE PROTECTION AROUND THE TREES TO REMAIN AND EROSION AND SEDIMENT CONTROL MEASURES.

THE TREE PROTECTION FENCING SHOWN AROUND TREES #7, #8, #10, AND #17, IS TO BE INSTALLED AT THE BEGINNING OF THE PROJECT DURING THE INSTALLATION OF THE SITE FENCING AND THE PERIMETER EROSION AND SEDIMENT CONTROL DEVICES, PRIOR TO ANY LAND DISTURBING ACTIVITIES.

Table 12.3 Tree Preservation Target Calculations and Statement

A	Pre-development area of existing tree canopy (From Existing Conditions Plan)	1140	sq. ft
B	Percentage of gross site area covered by existing tree canopy	4.2	%
C	Percentage of 10-year tree canopy required for site (See Table 12.4)	10	%
D	Percentage of the 10-year tree canopy requirement that should be met through tree preservation	10	%
E	Proposed percentage of canopy requirement that will be met through tree preservation	49	%
F	Has the Tree Preservation Target minimum been met?	YES	
G	If No for line F, then a request to deviate from the Tree Preservation Target shall be provided on the plan that states one or more of the justifications listed in 12-0508.3 along with a narrative that provides a site-specific explanation of why the Tree Preservation Target cannot be met. Provide sheet number where deviation request is located.		
H	If step G requires a narrative, it shall be in accordance with 12-0508.4		
I	Place this information prior to the 10-year Tree Canopy Calculations as per instructions in Table 12.10.		

EXISTING TREE IDENTIFICATION TABLE

#	SIZE	TYPE	DRIP (DIA)	NOTE
1	14"	PINE	25'	
2	2"	WALNUT	7'	
3	1"	SYCAMORE	5'	
4	10"	PINE	15'	
5	2"	BIRCH	8'	TWIN
6	10"	PINE	15'	
7	10"	PINE	15'	
8	10"	PINE	15'	
9	12"	PINE	20'	
10	4"	MAPLE	8'	
11	6"	SYCAMORE	15'	
12	6"	SYCAMORE	15'	
13	6"	SYCAMORE	15'	
14	5"	SYCAMORE	12'	
15	5"	SYCAMORE	12'	
16	5"	SYCAMORE	12'	
17	5"	SYCAMORE	12'	
18	3"	SYCAMORE	6'	
19	6"	DECIDUOUS	12'	
20	12"	OAK	22'	
21	14"	OAK	26'	
22	12"	OAK	24'	
23	6"	SYCAMORE	14'	

Table 12.10 10-year Tree Canopy Calculation Worksheet

Step		Totals
A. Tree Preservation Target and Statement		
A 1	Place the Tree Preservation Target calculations and statement here preceding the 10-year canopy calculations	
B. Tree Canopy Requirement		
B 1	Identify gross site area, sq. ft.	26571.6
B 2	Subtract area dedicated to parks, road frontage	0
B 3	Subtract area of exemptions	0
B 4	Adjusted gross site area (B1-B2)	26571.6
B 5	Identify site's zoning and/or use	I4
B 6	Percentage of 10 year tree canopy required	10
B 7	Area of 10-year tree required (B4xB6)	2657.16
B 8	Modification of 10-year Tree Canopy Requirements Requested?	NO
B 9	If B8 is yes, then list plan sheet where modification request is located	
C. Tree Preservation		
C 1	Tree Preservation Target Area	114
C 2	Total canopy area meeting standards of 12-0400	557
C 3	C2 x 1.25	696.25
C 4	Total canopy area provided by unique or valuable forest or woodland communities	0
C 5	C4 x 1.5	0
C 6	Total canopy area provided by Heritage, Memorial, Specimen, or Street Trees	0
C 7	C6 x 1.5 to 3.0	0
C 8	Canopy area of trees within Resource Protection Areas and 100 year floodplains	0
C 9	C8 x 1.0	0
C 10	Total of C3, C5, C7 and C9	696.25
D. Tree Planting		
D 1	Area of canopy to be met through tree planting (B7-C10)	1960.91
D 2	Area of canopy planted for air quality benefits	0
D 3	x 1.5	0
D 4	Area of canopy planted for energy conservation	0
D 5	x 1.5	0
D 6	Area of canopy planted for water quality benefits	250
D 7	x 1.5	375
D 8	Area of canopy planted for wildlife benefits	0
D 9	x 1.5	0
D 10	Area of canopy provided by native trees	1250
D 11	x 1.5	1875
D 12	Area of canopy provided by improved cultivars and varieties	0
D 13	x 1.25	0
D 14	Area of canopy provded through tree seedlings	0
D 15	x 1.0	0
D 16	Percentage of D14 represented by D15	0
D 17	Total canopy area provided through tree planting	2250
D 18	Is an off-site planting relief requested?	NO
D 19	Tree Bank or Tree Fund?	NO
D 20	Canopy area requested to be provided through off-site banking or tree fund	N/A
D 21	Amount to be deposited into the Tree Preservation and Planting Fund	0
E. Total of 10-year Tree Canopy Provided		
E 1	Total of canopy area provided through tree preservation (C10)	696.25
E 2	Total of canopy area provided through tree planting (D17)	2250
E 3	Total of canopy area provided through off-site mechanism (D19)	0
E 4	Total of 10-year Tree Canopy Provided (E1 + E2 + E3)	2946.25

Application No. SP 2012-MV-083

Approved

Chairman, Board of Zoning Appeals

Plant Schedule

Key	Botanical Name	Common Name	Qty.	Stock Size (height/caliper)	Stock Type	10-yr Tree Canopy, sq. ft.	Tree Canopy Sub-Total, sq. ft.	Remarks
AR	Acer rubrum	Red Maple	3	3"	B&B	250	750	
FA	Fagus americana	American Beech	2	3"	B&B	250	500	
AA	Amelanchier arborea	Downey Serviceberry	2	3"	B&B	125	250	Filterra

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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COMMONWEALTH OF VIRGINIA
WILLIAM S. SPRINGER
Lic. No. 024778
10/16/2012
PROFESSIONAL ENGINEER

NO. BY	REVISIONS	DATE

DWG. TITLE

TREE PRESERVATION & LANDSCAPE PLAN

DATE	10/16/12
SCALE	1" = 20'
DWN.	KAB CHK. WSS
PROJ. No.	07077-04C
DWG. No.	006